

AMENDMENTS

In the Specification:

Page 1, line 7, amend the heading as follows: TECHNICAL FIELD OF THE INVENTION.

Page 1, line 20, amend the heading as follows: BACKGROUND [[ART]] OF THE INVENTION.

Page 4, line 17, amend the heading as follows: DISCLOSURE SUMMARY OF THE INVENTION.

Page 4, delete line 18.

Page 4, delete line 28.

Page 5, lines 10-27, amend the paragraph as follows:

Thus, the invention is directed to a readily-adhesive polyester film for optical applications that includes a biaxially-stretched polyester film; and a coating layer that is stacked on at least one side of the polyester film and produced by a process including: applying, to at least one side of the polyester film, an aqueous coating liquid containing a resin composition including (A) an aqueous polyester resin and (B) at least one of a water-soluble titanium chelate compound, a water-soluble titanium acylate compound, a water-soluble zirconium chelate compound, or a water-soluble zirconium acylate compound, as main components, wherein the mixing ratio (A)/(B) is from 10/90 to 95/5 by [[mass]] weight; drying the coating; and then stretching the coating in at least one direction. The invention is also directed to a laminated polyester film for optical applications that includes: the above readily-adhesive polyester film; and a hard coating layer that is stacked on the coating layer on at least one side of the readily-adhesive polyester film and includes an electron beam-cured or ultraviolet light-cured acrylic resin or a heat-cured siloxane resin.

Page 5, delete line 29.

Page 6, line 8, insert the following paragraph:

Thus, the film of the invention is useful as a base material film for antireflection films which are attached to the front side of a display screen of a touch panel, a liquid crystal display (LCD), a cathode-ray-tube (CRT) for a television set or computer, a plasma display (PDP), a decoration, or the like to impart antireflection properties such that the reflection of external light, glare, rainbow reflections, and the like can be suppressed. Additionally, the film of the invention exhibits excellent adhesion between the readily-adhesive layer and the layer placed thereon and exhibits excellent adhesion at high temperatures and high humidities (resistance to humidity and heat). Thus, the layer placed on the readily-adhesive layer may be not only the hard coating layer for optical applications but also any other layer comprising any of a wide variety of materials, such as a photosensitive layer, a diazo sensitized layer, a mat layer, an ink layer, an adhesive layer, a thermoset resin layer, a UV cure resin layer, a vapor-deposited layer of metal or inorganic oxide.

Page 6, line 9, amend the heading as follows: ~~BEST MODE FOR CARRYING OUT~~
DETAILED DESCRIPTION OF THE INVENTION.

Page 7, line 28, to page 8, line 4, amend the paragraph as follows:

In the readily-adhesive polyester film of the invention, the coating layer is made from a resin composition that includes (A) an aqueous polyester resin and (B) at least one of a water-soluble titanium chelate compound, a water-soluble titanium acylate compound, a water-soluble zirconium chelate compound, or a water-soluble zirconium acylate compound, as main components, wherein the mixing ratio (A)/(B) is from 10/90 to 95/5 by [[mass]] weight.

Page 10, lines 6-16, amend the paragraph as follows:

In the invention, the aqueous polyester resin (A) refers to any polyester resin capable of being dissolved or dispersed in water or any water-soluble organic solvent (such as an aqueous solution containing less than 50% by [[mass]] weight of an alcohol, alkylcellosolve, ketone or ether solvent). In order to impart the aqueous properties to any polyester resin, it is important to introduce a hydrophilic group such as a hydroxyl group, a carboxyl group, a sulfonate group, a

phosphate group, and an ether group into the molecular chain of the polyester resin. Among these hydrophilic groups, the sulfonate group is preferred in view of coating film properties and adhesion.

Page 11, lines 20-26, amend the paragraph as follows:

Another main component for the coating layer is (B) at least one of a water-soluble titanium chelate compound, a water-soluble titanium acylate compound, a water-soluble zirconium chelate compound, or a water-soluble zirconium acylate compound. The term "water-soluble" means that the compound can be dissolved in water or an aqueous solution containing less than 50% by weight of a water-soluble organic solvent.

Page 13, lines 9-15, amend the paragraph as follows:

Besides water, the solvent for use in the coating liquid may contain an alcohol such as ethanol, isopropyl alcohol, and benzyl alcohol, in an amount of less than 50% by weight, based on the total amount. Any organic solvent other than alcohols may also be included in an amount of less than 10% by weight, as long as it can be dissolved. However, the total amount of the alcohols and the other organic solvents should preferably be less than 50% by weight.

Page 15, lines 8-13, amend the paragraph as follows:

In this film production process, the aqueous coating liquid is applied to at least one side of the PET film at any stage. The coating layer may be formed on both sides of the PET film. The concentration of the resin composition solids in the aqueous coating liquid is preferably from 2 to 35% by weight, particularly preferably from 4 to 15% by weight.

Page 20, line 28, to page 21, line 9, amend the paragraph as follows:

To a stainless steel autoclave equipped with a stirrer, a thermometer and a partial reflux condenser were added 186 parts by weight of dimethyl terephthalate, 186 parts by weight of dimethyl isophthalate, 23.7 parts by weight of dimethyl 5-sodium sulfoisophthalate, 137 parts by weight of neopentyl glycol, 191 parts by weight

of ethylene glycol, and 0.5 parts by [[mass]] weight of tetra-n-butyl titanate and subjected to transesterification at temperatures from 160°C to 220°C for 4 hours. The reaction system was then heated to 255°C, gradually decompressed and then allowed to react under a reduced pressure of 29 Pa for one hour and 30 minutes to give a copolyester resin (named A-1). The resulting copolyester resin was light yellow and transparent.

Page 21, line 20, to page 22, line 27, amend the paragraphs as follows:

To a reactor equipped with a stirrer, a thermometer and a reflux condenser were added 20 parts by [[mass]] weight of the polyester resin (A-1) and 15 parts by [[mass]] weight of ethylene glycol monobutyl ether and heated and stirred at 100°C until the resin was dissolved. After the resin was completely dissolved, 65 parts by [[mass]] weight of water was gradually added to the polyester solution with stirring. After the addition, the solution was cooled to room temperature with stirring to form an aqueous milky white dispersion (named B-1) of the polyester with a solids content of 20% by [[mass]] weight. Similarly, aqueous dispersions named (B-2) to (B-4), respectively, were prepared using the polyester resins (A-2) to (A-4), respectively, in place of the polyester resin (A-1).

(2) Preparation of Coating Liquid

40 parts by [[mass]] weight of the resulting aqueous dispersion (B-1) of the polyester, 18 parts by [[mass]] weight of a 44% by [[mass]] weight hydroxybis(lactato)titanium solution (TC310, manufactured by Matsumoto Chemical Industry Co., Ltd.), 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-1)).

Page 23, line 21, to page 30, line 5, amend the paragraphs as follows:

(4) Preparation of Hard-Coated Film

A solution prepared by adding 5 parts by weight of methyl ethyl ketone to 5 parts by weight of a hard coating agent (Seikabeam EXF01 (B), with a solids content of 100% by weight, manufactured by Dainichiseika Color & Chemicals Mfg. Co., Ltd.) was applied to the coating surface of the resulting readily-adhesive polyester film with a wire bar No. 8 and dried at 70°C for 1 minute so that the solvent was removed. Ultraviolet light was irradiated by a high pressure mercury lamp to the surface of the hard coating layer under the conditions of an irradiation energy of 200 mJ/cm² and a radiation distance of 15 cm, while the film with the hard coating layer is fed at a feed rate of 5 m/minute, so that a hard-coated film with a 3 μm-thick hard coating layer was obtained. The evaluation results are shown in Table 2.

Example 2

48 parts by weight of the aqueous dispersion (B-2) of the polyester, 15 parts by weight of a 44% by weight hydroxybis(lactato) titanium solution (TC310, manufactured by Matsumoto Chemical Industry Co., Ltd.), 150 parts by weight of water, and 100 parts by weight of isopropyl alcohol were mixed, and 1% by (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-2)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Example 3

12 parts by [[mass]] weight of the aqueous dispersion (B-3) of the polyester, 17 parts by [[mass]] weight of an 80% by [[mass]] weight diisopropoxybis(triethanolaminate)titanium solution (TC400, manufactured by Matsumoto Chemical Industry Co., Ltd.), 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-3)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Example 4

24 parts by [[mass]] weight of the aqueous dispersion (B-4) of the polyester, 11 parts by [[mass]] weight of diisopropoxybis(acetylacetonate) titanium, 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-4)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Example 5

32 parts by [[mass]] weight of the aqueous dispersion (B-4) of the polyester, 10 parts by [[mass]] weight of zirconium acetate, 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co , Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-5)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Comparative Example 1

80 parts by [[mass]] weight of the aqueous dispersion (B-1) of the polyester, 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co , Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-6)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Comparative Example 2

64 parts by [[mass]] weight of the aqueous dispersion (B-1) of the polyester, 10 parts by [[mass]] weight of a self cross-linkable polyurethane resin having a blocked isocyanate group (Elastron H-3, manufactured by Dai-ichi Kogyo Seiyaku Co., Ltd.), and 1 part by [[mass]] weight of a catalyst for Elastron (Cat64, manufactured by Dai-ichi Kogyo Seiyaku Co., Ltd.) were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-7)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Comparative Example 3

40 parts by [[mass]] weight of a 44% by [[mass]] weight hydroxybis(lactato) titanium solution (TC310, manufactured by Matsumoto Chemical Industry Co., Ltd.), 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-8)). A biaxially-stretched PET

film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Comparative Example 4

32 parts by [[mass]] weight of the aqueous dispersion (B-2) of the polyester, 5 parts by [[mass]] weight of a self cross-linkable polyurethane resin having a blocked isocyanate group (Elastron H-3, manufactured by Dai-ichi Kogyo Seiyaku Co., Ltd.), 0.5 parts by [[mass]] weight of a catalyst for Elastron (Cat64, manufactured by Dai-ichi Kogyo Seiyaku Co., Ltd.), and 64 parts by [[mass]] weight of an aqueous 10% by [[mass]] weight niobium oxide sol solution (SAM-0, manufactured by Taki Chemical Co., Ltd.) were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co., Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-9)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Comparative Example 5

80 parts by [[mass]] weight of an emulsion of an acrylic resin (methyl methacrylate/ethyl acrylate/acrylic acid/N-methylolacrylamide=60/40/2/4 in [[mass]] weight ratio) with a solids content of 20% by [[mass]] weight, 3.2 parts by [[mass]] weight of di-n-butoxybis(triethanolaminate)titanium, 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by

Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co , Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-10)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Comparative Example 6

Forty-eight parts by [[mass]] weight of an emulsion of an acrylic resin (methyl methacrylate/ethyl acrylate/acrylic acid/N-methylolacrylamide=25/75/4/2 in [[mass]] weight ratio) with a solids content of 20% by [[mass]] weight, 6.4 parts by [[mass]] weight of an aqueous titanium-modified resin (Orgatix WS680, manufactured by Matsumoto Chemical Industry Co., Ltd.), 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) and 2% by [[mass]] weight (in terms of silica content based on the amount of the resin solids) of an aqueous dispersion of colloidal silica fine particles (Cataloid SI80P, with an average particle size of 80 nm, manufactured by Catalysts & Chemicals Industries Co , Ltd.) were each added to the mixture to form a coating liquid (hereinafter referred to as coating liquid (C-11)). A biaxially-stretched PET film having a coating layer on one side and a hard-coated film were obtained using the coating liquid and the process of Example 1. The evaluation results are shown in Table 2.

Page 30, line 15, to page 31, line, amend the paragraphs as follows:

Comparative Example 8

10 parts by [[mass]] weight of titanium oxide ultra-fine particles (TTO-S-1, manufactured by Ishihara Sangyo Kaisha, Ltd.) with particle sizes (width/length) of 0.01 to 0.02 μm /0.05 to 0.1 μm observed with an electron microscope was mixed with 90 parts by [[mass]] weight of water and dispersed at 5000 rpm for 30 minutes in a dispersing machine (AUTO CELL MASTER CM-200) so that an aqueous dispersion of the titanium oxide particles at a concentration of 10% by [[mass]] weight (named aqueous dispersion A) was prepared.

Thirty parts by [[mass]] weight of the aqueous dispersion (B-4) of the polyester, 150 parts by [[mass]] weight of water, and 100 parts by [[mass]] weight of isopropyl alcohol were then mixed, and 1% by [[mass]] weight (based on the amount of a coating liquid) of an anionic surfactant (Neopelex No. 6F powder, manufactured by Kao Corporation) was added to the mixture to form an aqueous dispersion of the polyester (named aqueous dispersion B). Thirty parts by [[mass]] weight of the aqueous dispersion A of the titanium oxide particles prepared as described above was added to the aqueous dispersion B of the polyester to form a coating liquid. In the coating liquid, however, the titanium oxide fine particles were precipitated in the form of gel, and thus coating the base film was stopped.

Delete page 33 in its entirety.

Replace the Abstract with the sheet attached in the first Appendix.